

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
2 February 2006 (02.02.2006)

PCT

(10) International Publication Number
WO 2006/011171 A1

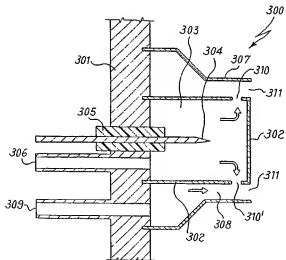
- (51) International Patent Classification⁷: G01N 27/64 (27/68)
- (21) International Application Number: PCT/IT2005/000409
- (22) International Filing Date: 18 July 2005 (18.07.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: MI2004A 001523 27 July 2004 (27.07.2004) IT
- (71) Applicant (for all designated States except US): SAES GETTERS S.p.A. [IT/IT]; Viale Italia, 77, I-20020 Lainate MI (IT).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): GIANNANTONIO, Roberto [IT/IT]; Via Montagnina 9, I-28047 Oleggio NO (IT). MAURI, Luca [IT/IT]; Via Matteotti 72, I-20030 Bovisio Masciago MI (IT). URBANO, Marco [IT/IT]; Via Rossetti Gabriele 19, I-20145 Milano MI (IT). BONUCCI, Antonio [IT/IT]; Via Chiarelli 8/M, I-20151 Milano MI (IT).
- (74) Agent: ADORNO, Silvano, Società Italiana Brevetti S.p.A., Via Carducci, 8, I-20123 Milano (IT).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ION MOBILITY SPECTROMETER COMPRISING A CORONA DISCHARGE IONIZATION ELEMENT



(57) Abstract: An ion mobility spectrometer is disclosed wherein the ionization element is a corona discharge source (300) consisting of a first chamber (308) provided with an inlet (309) for a gas to be analyzed and with at least one first opening (311) for communication between the internal space of the first chamber and the reaction zone of the spectrometer; a second chamber (305), contained in the first chamber, provided with an inlet (306) for an ultra-pure gas or a mixture of ultra-pure gases, and with at least one second communication opening (310, 310') between the first and the second chamber; a pair of electrodes (304, 302'), at least one of which (304) is needle-shaped, arranged in the second chamber, with the pair of electrodes and the second opening arranged in such geometrical relationships that there is no optical path between the zone of the corona discharge and the ion detector of the IMS instrument. The instrument of the invention allows to reproduce the results of a spectrometer equipped with a ²⁵²Ni ionization source, while avoiding the problems connected to the transportation and use of radioactive material.

WO 2006/011171 A1